

REMARKS/ARGUMENTS

The present Amendment is in response to the Office Action having a mailing date of June 6, 2005. Claims 1-35 are pending in the present Application. Claims 19-35 have been withdrawn. Applicant has amended claims 1, 3, 8, 10, and 18. Consequently, claims 1-35 remain pending in the present Application.

In the above-identified Office Action, the Examiner indicated that claims 3-10 would be allowable if rewritten or amended to be in independent form, incorporating the limitations of the base claim and any intervening claims. Applicant has amended claims 3, 8, and 10 to be in independent form and to incorporate the limitations of the base claim and any intervening claims. Claims 4-7 and 9 depend upon independent claims 3 and 8, respectively. Accordingly, Applicant respectfully submits that claims 3-10 are allowable over the cited references.

In the above-identified Office Action, the Examiner rejected claims 1-2 under 35 U.S.C. § 102 as being anticipated by Applicant's admitted prior art (AAPA).

Applicant respectfully traverses with the Examiner's rejection. Independent claim 1 recites a magnetic random access memory (MRAM) cell including a first write line that resides below a magnetic memory element and that is electrically connected with the magnetic memory element in conjunction with a second write line that resides above the magnetic memory element and is electrically isolated from the magnetic memory element. Moreover, the magnetic memory element is a magnetoresistive element including a pinned layer, a free layer, and a nonmagnetic layer between the pinned layer and the free layer. Because of the configuration of the write lines with respect to the magnetic memory element fabrication is simplified and the architecture exhibits better scalability to smaller MRAM cell sizes. Furthermore, particularly if magnetic or

magnetic cladded write lines are used, the writing efficiency is also improved. Specification, page 22, lines 1-6.

In contrast, the AAPA neither teaches nor suggests a memory which includes a first write line that resides below a magnetic memory element and that is electrically connected with the magnetic memory element in conjunction with a second write line that resides above the magnetic memory element and is electrically isolated from the magnetic memory element. Figure 1 of the AAPA depicts a memory in which the write line (word line 10) below the magnetic memory element 11 is insulated from the magnetic memory element 10. In addition, the write line (bit line 12) that is above the magnetic memory element 11 is electrically connected to the magnetic memory element 10. Similarly, Figure 2 of the AAPA depicts another magnetic memory in which the magnetic memory element 11' is not electrically connected to the lower write line 10'. Applicant notes that the magnetic memory element 11' is close to the magnetic cladding 1002 and central conductive material 1001 of the write line 10 below the magnetic memory element 11'. However, the magnetic memory element 11' is not in contact with any portion of the lower write line 10. Stated differently, there is some space between the magnetic memory element 11' and the lower write line 10. Further, Applicant has found no indication in the text of the AAPA that the magnetic memory element 11' in Figure 2 is connected to the lower write line 10, even though the magnetic memory element 11 is not connected to the line 10 in Figure 1. Similarly, the magnetic memory element 11' is in contact with and, therefore, electrically connected to the line 12 above the magnetic memory element 11'. Consequently, Applicant respectfully disagrees that the AAPA teaches or suggests a memory which includes a first write line that resides below a magnetic memory element and that is electrically connected with the magnetic memory element in conjunction with a second write line that resides above the magnetic memory element and is

electrically isolated from the magnetic memory element. Accordingly, Applicant respectfully submits that claim 1 is allowable over the AAPA.

Claim 2 depends upon claim 1. Consequently, the arguments herein apply with full force to claim 2. Accordingly, Applicant respectfully submits that claim 2 is allowable over the AAPA.

Accordingly, Applicant respectfully submits that claims 1 and 18 are allowable over the cited references.

The Examiner rejected claims 1-2 and 18 under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,850,455 (Rinerson).

Applicant respectfully traverses the rejection. Claim 1 recites a magnetic random access memory (MRAM) cell including a first write line that resides below a magnetic memory element and that is electrically connected with the magnetic memory element in conjunction with a second write line that resides above the magnetic memory element and is electrically isolated from the magnetic memory element. Moreover, the magnetic memory element is a magnetoresistive element including a pinned layer, a free layer, and a nonmagnetic layer between the pinned layer and the free layer. Claim 18 recites an analogous magnetic random access memory. Thus, in addition to reciting specific relationships between the magnetic memory element and the write lines above and below the magnetic memory element, claims 1 and 18 recite specifics relating to the magnetic memory element.

In contrast, Rinerson describes a system which utilizes a complex metal oxide (CMO) memory element. Rinerson, col. 1, lines 37-43. Rinerson describes specific materials which might be used for the CMO memory element. See Rinerson, col. 4, line 56-col. 5, line 3. Despite a relatively detailed description of the materials used, Applicant can find no indication in the cited

portions of Rinerson that the CMO memory element includes the recited pinned layer, the recited free layer, or the recited nonmagnetic layer between the pinned and free layers. Consequently, there is no indication in Rinerson that the magnetic memory element of Rinerson can or should include the recited free layer, the recited pinned layer, or the recited nonmagnetic layer. Rinerson, therefore, fails to teach or suggest the recited memory element including the recited layers in combination with the write lines oriented as recited. Accordingly, Applicant respectfully submits that claims 1 and 18 are allowable over Rinerson.

Claim 2 depends upon claim 1. Consequently, the arguments herein with respect to claim 1 apply with full force to claim 2. Accordingly, Applicant respectfully submits that claim 2 is allowable over the cited references.

Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,
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Date

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